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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/655,102	09/05/2000	Ki Hyun Joo	EXIO-002	7284

7590 07/29/2004

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EXAMINER

PHUNKULH, BOB A

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 07/29/2004

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/655,102

Applicant(s)

JOO ET AL.

Examiner

Bob A. Phunkulh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-11 and 14-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-30 is/are rejected.
- 7) ☒ Claim(s) 1 and 3-8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

This communication is in response to applicant's 05/06/2004 amendment(s)/response(s) in the application of **Joo et al.** for "**Handoff Control in an Enterprise Division Multiple Access Wireless System**" filed 09/05/2000. The amendments/response to the claims have been entered. Claims 2, 12-13 have been canceled. Claims 21-31 have been added. Claims 1, 3-11, 14-31 are now pending.

Claim Objections

Claim 1 is objected to because of the following informalities: correct the claimed subject matter "said CDMA wireless base station" in line 6 to --said CDMA wireless base stations--; the claimed subject matter "said base station" in line 8 to --said CDMA wireless base stations--; and the claimed subject matter "said antenna unit" in line 9 to --said antenna units-- . Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 21-22, 26-27, and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by Han (US 6,714,785).

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Regarding claim 21, Han discloses a method of providing communication service comprising:

receiving a handoff request from a mobile communication unit communicating on a first network (see step 811, figure 8);

determining, in response to the handoff request, whether the mobile communication unit is located within a designated handoff transition area (the combination of location flag and direction flag provides the location of the mobile communication unit, see col. 8 line 58-65 and col. 9 lines 8-18);

executing a handoff, between the first network and a second network, of communication with the mobile communication unit, if the mobile communication unit is located within the designated handoff transition area (perform handoff process step 829, see figure 8); and

denying the handoff request if the mobile communication is not located within the designated handoff transition area (the combination of step 821 and step 827, see figure 8).

Regarding claim 22, Han discloses determining a location of the mobile communication unit (see claim 1, generating location information and direction information of a mobile station according to the determined search window index).

Regarding claim 26, Han discloses Logic embedded in computer-readable media and operable when executed to perform the steps of:

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receiving a handoff request from a mobile communication unit communicating on a first network (see step 811, figure 8);

determining, in response to the handoff request, whether the mobile communication unit is located within a designated handoff transition area (the combination of location flag and direction flag provides the location of the mobile communication unit, see col. 8 line 58-65 and col. 9 lines 8-18);

executing a handoff, between the first network and a second network, of communication with the mobile communication unit, if the mobile communication unit is located within the designated handoff transition area (perform handoff process step 829, see figure 8); and

denying the handoff request if the mobile communication is not located within the designated handoff transition area (the combination of step 821 and step 827, see figure 8).

Regarding claim 27, Han discloses wherein the logic is further operable to determine a location of the mobile communication unit (generating location information and direction information of a mobile station according to the determined search window index, see claim 1).

Regarding claim 31, Han discloses a system for providing mobile communication service, comprising:

means for receiving a handoff request from a mobile communication unit communicating on a first network (see step 811, figure 8);

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means for determining, in response to the handoff request, whether the mobile communication unit is located within a designated handoff transition area (the combination of location flag and direction flag provides the location of the mobile communication unit, see col. 8 line 58-65 and col. 9 lines 8-18);

means for executing a handoff, between the first network and a second network, of communication with the mobile communication unit, if the mobile communication unit is located within the designated handoff transition area (perform handoff process step 829, see figure 8); and

means for denying the handoff request if the mobile communication is not located within the designated handoff transition area (the combination of step 821 and step 827, see figure 8).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-20, 23-25, 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver, Jr. et al. (US 5,828,661), hereinafter Weaver, in view of Han.

Regarding claim 9, Weaver discloses an integrated enterprise Code Division Multiple Access, CDMA, wireless base station comprising:

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a sectorized base station controller coupled to control communication between the base station and mobile communication units within an identified geographical sector within a building (see figure 1);

an extended antenna unit (334, 336, see figure 13);

a signal distribution concentration unit (the combination of transmitter 330 and receiver 338) including handoff logic, the handoff logic control logic operable to:

receive a hand off request from the mobile communication unit;

execute a handoff request, if the mobile unit is located within a designated handoff transition area within the identified geographical sector; and

a delay element unit (delay line 340, see figure 13).

Weaver fails to explicitly disclose deny the handoff request if the mobile communication is not located within the designated handoff transition area.

Han, on the other hand, discloses denying the handoff request if the mobile communication is not located within the designated handoff transition area (the combination of step 821 and step 827, see figure 8).

Therefore, it would have been obvious to one having ordinary skill in the art at the of the invention was made to include the teaching of Han especially denying the handoff request if the mobile communication is not located within the designated handoff transition area in the system taught by the Weaver in order avoid dropping call or communication (see col. 2 line 25-44 for motivation).

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Regarding claim 10, Weaver discloses wherein said delay element units are daisy chained to said extended antenna unit (see figure 13).

Regarding claim 11, Weaver discloses the delay element units are star chained to said extended antenna unit (see figure 13).

Regarding claim 12, Weaver the distribution concentration unit comprises a handoff control logic for handling signal handoffs between the base station and a macro system (see figure 4A-4C).

Regarding claim 13, Weaver discloses the handoff control logic further includes transition logic for providing handoffs within a hand-off transition area (see figure 4A4C).

Regarding claim 14, Weaver discloses the distribution concentration unit further comprises a pilot strength measurement message adaptable for reporting timely handoffs between the base station and a macro system (PSMM, see col. 15 line 57 to col. 16 line 35).

Regarding claim 15, Weaver, Jr. discloses an enterprise wireless communication system, comprising:

-a plurality of base stations (base stations 12, 14, 16, see figure 1);

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- a plurality of antennas distributed in predetermined regions within the enterprise system;
- a plurality of delay elements coupled to said plurality of base stations (each base station is supply with a delay line, see figure 13);
- a plurality of mobile communication units (see figures 1-4);
- a designated handoff transition region for enabling the mobile communications units communicate with an external public communication system (see figures 4A-4C).

Weaver fails to explicitly disclose deny the handoff request if the mobile communication is not located within the designated handoff transition area.

Han, on the other hand, discloses denying the handoff request if the mobile communication is not located within the designated handoff transition area (the combination of step 821 and step 827, see figure 8).

Therefore, it would have been obvious to one having ordinary skill in the art at the of the invention was made to include the teaching of Han especially denying the handoff request if the mobile communication is not located within the designated handoff transition area in the system taught by the Weaver in order avoid dropping call or communication (see col. 2 line 25-44 for motivation).

Regarding claim 16, Weaver, Jr. discloses the base stations comprise location identification logic for identifying the location of each of the mobile communication units within the enterprise system (see col. 15 line 46-56).

Regarding claim 17, Weaver, Jr. discloses the base stations further comprise time delay detection logic for detecting the duration of time delays of the delay elements (col. 28 lines 43-61).

Regarding claim 18, Weaver, Jr. discloses the delay elements are inserted into a communication path between said base stations and said mobile communication units (see figure 13).

Regarding claim 19, Weaver, Jr. discloses the base stations are coupled to receive a combined code division multiple access (CDMA) signal received from multiple CDMA signals transmitted from the mobile communication units via said antennas (see col. 5 line 31 to col. 6 line 15).

Regarding claim 20, Weaver, Jr. discloses the handoff requests between the mobile communication units and the base stations can only occur in said handoff transition region (see col. 18 lines 10-36).

Claims 23, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Han in view of Weaver.

Regarding claim 23, 28, Han fails to disclose determining the location of the mobile communication unit comprises determining the location of the mobile

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communication unit based on a delay associated with communication the mobile communication unit.

Weaver, on the other hand, discloses identifying (determining) the location of the mobile communication unit based on a round trip delay associated with communication the mobile communication unit (see col. 15 lines 42-45).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to implement the teaching of Weaver in the system taught by Han for round trip delay can be used to estimate the distance between the base station and the remote unit (see col. 15 lines 36-38 for motivation).

Claims 24-25, 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Han in view of Haartsen (US 6,112,088).

Regarding claim 24-25, 29-30, Han fails to explicitly disclose receiving the handoff request from the mobile communication unit communicating on a private mobile communication network, and wherein executing the handoff further comprises executing the handoff between the private mobile communication network and a public mobile communication network, if the mobile communication unit is located within the designated handoff transition area or

Haartsen, on the other hand, discloses a method for mobile assisted handover from a private radio communications network to an overlaying public land mobile network without requiring call interruption (see col. 2 lines 61-64; col. 3 lines 8-13; and col. 3 lines 40-47).

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Therefore, it would have been obvious to one having ordinary skill in the art the time of invention was made to implement the teaching of Haartsen in the system taught by Han for providing improved radio communications mobile terminals useable with both a public land mobile network, as well as a private radio communications network within the coverage area of the public land mobile network.

Allowable Subject Matter

Claims 1, 3-8 are objected to as being dependent upon an objected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

DETAILED ACTION

This communication is in response to applicant's 05/15/2003 amendment(s)/response(s) in the application of **N et al.** for "**topic**" filed 02/12/1998. The amendments/response to the claims have been entered. No claims have been canceled. No claims have been added. Claims 1-31 are now pending.

Conclusion

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications intended for entry)

Or:

Hand-delivered responses should be brought to Crystal Park II, 2021
Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Bob A. Phunkulh** whose telephone number is **(703)**

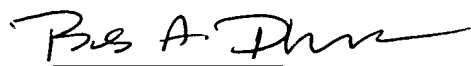
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308-8251. The examiner can normally be reached on Monday-Friday from 8:00 A.M. to 4:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor **Douglas W. Olms**, can be reach on **(703) 305-4703**. The fax phone number for this group is **(703) 872-9314**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bob A. Phunkulh



TC 2600
Art Unit 2661
July 23, 2004



KENNETH VANDERPUYE
PRIMARY EXAMINER